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**Patent and Trademark Office**

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(Jh)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/084,787 05/21/98 HARASAWA

S FUJH13.010A

EXAMINER

PM92/0816

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60TH FLOOR  
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MOSKOWITZ, N

ART UNIT

PAPER NUMBER

3662

DATE MAILED:

08/16/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/084787

Applicant(s)

HARASAWA ET AL

Examiner

H. Moskowitz

Group Art Unit

3662

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 4/28/99
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 15-17 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 15-17 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_ ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 3662

1. Applicants' letter received April 28, 1999 has been made of record and the amendments entered.
2. Claims 15, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayata or Applicants' disclosure (Fig. 15) when taken with Heidemann ('109).

In determining obviousness, the following factual determinations are made:

- a. first, the scope and content of the prior art;
- b. second, the difference between the prior art and the pending claims.
- c. third, the level of skill of a person of ordinary skill in this art; and
- d. fourth, whether other objective evidence may be present, which indicates

obviousness of nonobviousness. Graham v. John Deere Co., 282 US 1, 17-18, 148 USPQ 456, 466-67 (1966). Objective evidence includes long felt but unmet need for the claimed invention, failure of others to solve the problem addressed by the claimed invention, and not other factors.

See e.g. Simmons Fastener Corp. v. Illinois Tool Works Inc., 739 Fed. 1573, 1574-76, 22 USPQ 744, 745-47 (Fed. Cir. 1984).

Examining the scope and content of the prior art one finds the following:

- a. The former reference discloses an optical amplifier with an input terminal, an optical coupler, a detector, and an optical fiber amplifier. Fig. 15 of Applicants' disclosure is identified as prior art and contains similar components.

Art Unit: 3662

b. The latter reference is directed to fiber optic amplifiers and teaches the use of an optical filter positioned downstream to block pump radiation having passed through the amplifier. See filter 6a. This provides burnout protection and lessens noise.

Secondly under Deere, the difference between this prior art and the pending claims lies in the combination of an optical filter to the post coupler input of Hayata or Applicants' disclosed prior art.

Third, under Deere the level of ordinary skill in this art may be determined by the analysis of the Court as set forth in Environmental Designs, Ltd. v Union Oil Co. 713 F.3d 693, 218 USPQ 865-69 (Fed. Cir. 1983) cert. denied, 464 U.S. 1043 (1984), where the court listed factors relevant to a determination of the level of ordinary skill: type of problems encountered in the art, prior art solutions, rapidity of innovations, sophistication of technology, and educational level of active worker in the field.

The types of problems encountered in the art involve highly complex optics and quantum electronics, and how to provide inexpensive, accurate and reliable noise reduction.

Innovation in this field has been very fast as can be seen from virtual birth of this field in the 1970s to its present highly complex and sophisticated status.

Prior art solutions include noise filtering. Skilled artisan generally have graduate level education and over seven (7) years of experience, as can be seen from published articles in the major journals of this field, e.g. IEEE Journal of Quantum Electronic, Optical Communications. Optics, etc.

Art Unit: 3662

To date, no secondary considerations (objective evidence) has been presented. Therefore, as this prior art taught the benefits of such filtering, the combination would have been obvious to one skilled in this art.

A further indication of the obvious matter nature of the foresaid combination is the expectancy of the beneficial results from using the optical filter. This follows just as unexpected beneficial results would be evidence of unobviousness Ex parte Novak, 16 USPQ 2d 2041 (Bd. Pat. App. Int. 1990).

As the aforesaid prior art is known by optical physicists to provide the respective benefits and improvement as set forth above, the physicist would have been led to make the obvious combination of these teachings in order to obtain the benefits this prior art taught and the artisan would typically readily recognize.

Although there is no explicit teaching to combine the aforesaid references, it is noted that an artisan would generally look to optimize equipment life while maximizing S/N, which was expensive and difficult to accomplish. Such optimization ordinarily leads to more durable equipment, better filtering, simplicity of use, lowered costs, and less time used.

In response to Applicants' argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

Art Unit: 3662

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPO 209 (CCPA 1971).

In response to applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPO 2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ 2D 1941 (Fed. Cir. 1992). In this case, the reason to combine is the prior art known need for detector burnout protection and improved pump control.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPO 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPO 375 (Fed. Cir. 1986).

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 3662

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.



NELSON MOSKOWITZ  
PRIMARY EXAMINER

Moskowitz/mm  
July 22, 1999  
August 10, 1999